REMARKS

This application has been reviewed in light of the Office Action dated May 15, 2007. Claims 1-18 and 27-34 are presented for examination, of which Claims 1, 4, 8-10, 13, 17, 18, 27, 30 and 34 are in independent form. Claims 9 and 18 have been rewritten in independent form, and Claims 17 and 27-34 have been amended to define still more clearly what Applicants regard as their invention. Claims 19-26 have been canceled without prejudice or disclaimer of subject matter, and will not be mentioned further. Favorable reconsideration is requested. Claims 19-26 have been cancelled without prejudice or disclaims of subject matter.

In the outstanding Office Action, Claims 27-34 were rejected solely under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Those claims have been amended and are now directed to a computer-readable medium storing a program, and not to a program as such. Accordingly, it is believed that the rejection under Section 101 has been withdrawn, and allowance of these claims is respectfully requested.

In addition, Claims 1-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,169,608 (Yoshida).

As is described in greater detail in the application, the present invention is intended to provided an improvement in avoiding the false edge effect, and an improvement in dot dispersion properties.

Independent Claim 1 is directed to an image processing apparatus for quantizing multilevel color image data containing at least two kinds of color components. The apparatus of Claim 1 comprises error addition means, for adding a quantization error value distributed from a neighboring pixel for each color component to each of a plurality

of color components contained in a target pixel. A threshold table stores a quantization threshold for each of the color components in accordance with a combination of color component values of pixels, and modulation amount determination means determine a threshold modulation amount of each color in accordance with a combination of color component values of pixels including the target pixel. In addition, quantization means acquire a threshold for each color component from the threshold table in accordance with a combination of color components of the target pixel, determine a threshold modulated by adding the modulation amount to the threshold for each color, and quantize the target pixel in accordance with a relationship in magnitude between the modulated threshold and a value of each color component to which an error value is added by the error addition means.

By virtue of these features, the apparatus of Claim 1 performs quantization processing for a target color plane, taking densities of other color planes into consideration. In other words, the threshold values to be used in quantization are determined in a process that takes into consideration not just target color-component values of the relevant pixels, but rather a combination of those values and other color components values of those pixels. This makes it possible to reduce the occurrence of false textures and to improve dot dispersion in the processed image.

Yoshida relates to a method of converting a continuous tone color image into a pseudohalftone binary color image, that is, quantization of a continuous tone color image. According to *Yoshida*, a printing prohibiting matrix is prepared in advance, to determine several pixels that are to be compulsorily turned off (see, e.g., steps S250 and

S280 in Fig. 2). This is said to result in a reduction in the total amount of ink being consumed.

In addition, for each color component of the image, the pixel densities are successively compared with a threshold value. As is shown in Fig. 2, this processing is performed for all pixels in one color component, and only then is performed for a second color component (see steps S330, S350 and S360 in Fig. 2, and similarly in FIGS. 9, 10 and 15). Nothing has been found in *Yoshida* that is seen to teach or suggest determining a quantization threshold value by taking into account pixel values of more than one color component. That is, nothing has been found therein that would teach or suggest the "threshold table which stores a quantization threshold for *each* of the color components *in accordance with a combination of color component values* of pixels [emphases added]" recited in Claim 1. The recited table, that is, stores, for "each" color component, values that are "in accordance with a combination of color component values", and thus the contents of the table for a given color component are not based solely on values in that color component alone, but are based on the contrary are based on values of plural color components.

Applicants note the assertion in the Office Action that such a threshold table is disclosed at col. 5, lines 52-56, of *Yoshida*. That passage, however, merely discloses storage of all three color components of a picture. Except for the print-prohibiting matrix, the binarization method disclosed in *Yoshida* belongs to the state of the art over which the present invention is an improvement. For a target color plane, pixels are converted using a threshold table that has been made *without* taking other color components into consideration, contrary to Claim 1.

For at least this reason, Applicants submit that Claim 1 is allowable over *Yoshida*.

Independent Claim 4 is directed to an image processing apparatus for quantizing multilevel color image data containing at least two kinds of color components. This apparatus comprises error addition means for adding a quantization error value distributed from a neighboring pixel for each color component to each of a plurality of color components contained in a target pixel, and quantization means, for quantizing each color component of the target pixel. Also provided is a diffusion coefficient table, which stores a diffusion coefficient for diffusing a quantization error produced by the quantization means, in accordance with a combination of color component values of a pixel. According to Claim 4, the error addition means add an error value to the target pixel in accordance with a combination of color components of the target pixel and a diffusion coefficient selected from the diffusion coefficient table.

Again, nothing has been found in *Yoshida* that would teach or suggest the recited diffusion coefficient table, and thus Claim 4 is believed to be allowable over *Yoshida* for reasons similar to those discussed above with regard to Claim 1.

Independent Claims 8-10, 13, 17 and 18 each recite features similar to those discussed above with regard to Claims 1 and 4, and are believed to be patentable for at least the same reasons as discussed above in connection with the latter claims.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and allowance of the present application.

A Second Information Disclosure Statement is filed herewith.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

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